

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002262**Date Inspected:** 11-May-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Fu Yu Hong**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

CALTRANS Quality Assurance (QA) Inspector, Alfredo Acuna was present for the fabrication scheduled for this project at the ZPMC facility in Shanghai, China for the San Francisco Oakland Bay Self Anchored Suspension Bridge.

Production Monitoring test (PMT) and Fabrication on Bay # 1

The QA inspector performed random fit-up verifications to the PMT coupons. The QA inspector found that U-ribs fit-up appeared to be in compliance with the contract documents. Welding of PMTs started at approximately 0757 hours. The QA inspector observed welding operators Zang Shao Hui welder ID # 059403, Chen Jie, 059468, Xiang Huang Feng, 059416, Xiang Jie, ID # 059378, Gao Xin Dong ID # 059361 and Jiang Ting Guang, ID # 062265 performing welding operations on the root pass weld joints # 1 thru 6 respectively with the automatic Gantry Lincoln machine # 2 with the gas metal arc welding (GMAW) on the metal transferring with spray transfer mode following the dual process WPS-B-T-2342-U1 (U-rib)-3 welding procedure specification for closed rib welding of the Production Monitoring Test (PMT) #1 for Production Panel DP-462-001 on closed U-rib Partial Joint Penetration (PJP) welds in Bay #1 and simultaneously a cover pass with the submerged arc welding (SAW) process.

The QA inspector performed final visual inspection to the weld joint # 1 thru 6. The QA inspector found that the welds appeared to be in accordance with the contract documents. The QA inspector marked areas to cut for macroetch samples.

The QA inspector witnessed ZPMC QC inspector Li Li Ming performed 100 % ultrasonic testing on the partial penetration joint weld joints # 1 thru 6 for the production monitoring test welded on this date. The ultrasonic tested areas revealed that welds appeared to be in compliance with the contract documents.

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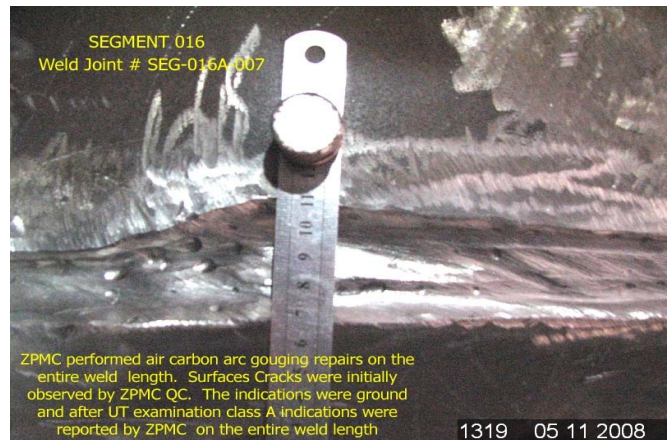
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The QA inspector observed that ZPMC performed backgouged operations to weld joints # SEG-016A-007 and 008.

The QA inspector was informed by ZPMC representative Shen Xu Jun that ZPMC performed Ultrasonic testing (UT) 05-09-2008 and found rejectable indications along the entire length of the joint. The QA inspector asked what ZPMC's findings were. Mr. Shen Xu Jun relayed that initially ZPMC found surface cracks by visual examination performed by QC inspector Liuan Zhao Gang on the weld reinforcement; later, ZPMC ground the backing weld and performed UT. The QA inspector asked why the QA inspectors were not informed about the cracks and why ZPMC did not issued a CWR addressing the crack that were observed visually. Mr. Shen Xu Jun translated for Mr. Liuan Zhao Gang that ZPMC understanding is that ZPMC does not need to inform the Engineer about cracks on the weld reinforcement on the backing weld that would be removed by grinding. The QA inspector said that ZPMC is having difficulties welding with the ceramic backing and the QA inspector would recommend an incident report to address the situation. The QA inspector performed random visual and dimensional inspection; in addition with magnetic particle testing (MT) testing in the backgouged areas after grinding to determine the present of linear indications. The QA inspector found:

1. Excavation had approximately 9 mm of depth
2. A localized area were found 45 mm excavation of width (ZPMC back gouged into the base metal) at approximately 1950 mm from the left end of the weld joint SEG-016A-007 with approximately 100 mm of length .
3. The QA inspector did not observed MT relevant indications.

The QA inspector had a conversation with ABF representative Don Walson, the QA inspector brought the attention of Mr. Don Walson that ZPMC performed crack repairs without Engineer approval. In addition, the QA inspector informed Mr. Shen Xu Jun and Don Walson about the significant removal of the base metal at the weld SEG-016A-007 that required a base metal repair to reconstitute the bevel preparation.



Summary of Conversations:

As noted above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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Inspected By: Acuna,Alfredo

Quality Assurance Inspector

Reviewed By: Cuellar,Robert

QA Reviewer